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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Richard A. Haase

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EXAMINER

NGUYEN, HOANG M

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

11/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/790,316

Applicant(s)

HAASE, RICHARD A.

Examiner

Hoang M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 216-220, 222-229, 231, 232, 235, 237-253 and 258-350 is/are pending in the application.
- 4a) Of the above claim(s) 261-341 and 343-349 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 216-220, 222-229, 231, 232, 235, 237-253, 258-260, 342 and 350 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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Applicant's amendment and declarations dated October 10, 2007, has been fully considered.

Applicant asked the Examiner to contact him to expedite the progress of this application. The Examiner already presented his proposed allowable claims in the previous Office Action and would like to repeat herein. "First of all, for the purpose of expediting the examining process, the Examiner would like to suggest the only independent claim 216 be amended to further include a combination of 1) the electrolysis chamber in claim 228, and 2) the hydrogen gel with frozen water crystals in claim 242 to put this application in condition for allowance. Right now, this application is still rejected because of the following reasons."

Applicant argued "to power" is different from "to regenerate", and Scharpf et al only teaches "to generate". The Examiner strongly disagrees. Please note the combusted products is inside the coal gasifier 70, that drives the steam generator 50, then the steam regenerate the air separation unit 80. Because the input energy all come from the coal gasifier 70, the combusted products from said gasifier is clearly used to drive or power both the steam generator and the air separation unit. Also, please note "to regenerate" is broader than "to power". As evidenced by Applicant's submitted dictionary pages, "to power" is simply a source or means of supplying energy. The steam in Scharpf et al is clearly a supply energy source for the air separation unit.

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Applicant argued Hurd does not disclose water in the "dry-ice" condenser and further argued dry-ice is carbon dioxide. The Examiner again strongly disagrees. Please note column 2, lines 46-49 of Hurd, "A portion of the condensate was hydrolyzed in water to give a gel". That clearly explains there is water and hydrogen in said frozen condenser; and of course, water is also frozen due to that frozen temperature.

Applicant argued Scharpf uses oxygen inside a coal gasifier which is different from this instant invention which only teaches the combustion of oxygen with hydrogen. The Examiner has noted Applicant many times before that Applicant should not attack the references separately in a 103 rejection. The primary reference Tindell already teaches the concept of using oxygen, hydrogen in a combustion chamber 31. Scharpf is used only to show the air separation unit. Also, it does not seem Applicant fully understand the Scharpf reference. Please note the oxygen from the air separation unit in Scharpf going to a coal gasifier 70 which is a type of combustion chamber. Furthermore, the outlet of said coal gasifier goes to a combustor 30 which is another combustion chamber. The nitrogen goes to an expander 90 through line 86, but also goes to said combustor 30 through compressor 20 and exhaust line 22. The combustor 30 should have all nitrogen, hydrogen and oxygen in there.

Regarding other 103 rejections including Gode, Kang et al, Weidig, Erickson, Thodarson, the Examiner has carefully reviewed all arguments including those in the declaration, but the arguments are not found persuasive. Even though the Examiner

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agrees with Applicant that "a dependent claim needs to include all of claims restrictions (or limitations) of the independent claim, as well as the restrictions of the dependent claims, the Examiner fails to find any patentably distinct subject matter in the dependent claims. Therefore, it's concluded that these dependent claims should stand and fall with the independent claims.

The Examiner strongly recommends Applicant to accept his proposed allowed claims as noted above to expedite the progress of this application. Otherwise, the rejections must be maintained as follows.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 216-220, 222, 223, 224, 238-240, 243, 248-253, 258, 342, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of U.S. 5388395 (Scharpf et al).

Tindell discloses a solar energy system comprising an electrolysis chamber 13 for forming hydrogen being stored in an hydrogen tank 22, oxygen being stored in an oxygen tank 21, a combustion chamber 33 for burning said hydrogen and oxygen, water input nozzle 31 for injecting water into the combustion chamber, said combustion chamber is then acting as a steam generator to generate steam to drive a steam turbine

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47 to generate electricity through a generator 48. Tindell does not teach the air separation unit being powered partly by the combustion energy. Scharpf et al discloses an air separation unit 80 being powered partly by the steam (column 4, lines 20-22), which is a part of the combustion power. It would have been obvious to provide an air separation unit in Tindell as taught by Scharpf et al for the purpose of more effectively forming oxygen for the combustion process. Regarding claim 223, Tindell does not disclose the use of nitrogen. Scharpf et al is relied upon to disclose it's well known to use nitrogen in the inlet of the combustion chamber for the purpose of improving the cooling function of the input fluid. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to inject nitrogen in Tindell as taught by Scharpf et al for the purpose of improving the cooling function of the input fluid.

Claims 216-220, 222, 223, 224, 228-229, 238-240, 243, 248-253, 258, 342, are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 3459953 (Hughes et al) in view of Scharpf et al.

Hughes et al discloses a solar energy system comprising an electrolysis chamber 16 for forming hydrogen being stored in an hydrogen tank 20, oxygen being stored in an oxygen tank 22, a combustion chamber 24 for burning said hydrogen and oxygen, water input nozzle 48 for injecting water into the combustion chamber, said combustion chamber is then acting as a steam generator to generate steam to drive a steam turbine 32 to generate electricity through a generator 36. Note the electrical input 10 can be

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from any sources (column 2, lines 15-16), so it's clear that the electricity from the generator 36 can be used too. Hughes et al does not teach the air separation unit being powered partly by the combustion energy. Scharpf et al discloses an air separation unit 80 being powered partly by the steam (column 4, lines 20-22), which is a part of the combustion power. It would have been obvious to provide an air separation unit in Hughes et al as taught by Scharpf et al for the purpose of more effectively forming oxygen for the combustion process. Regarding claim 223, Hughes et al does not disclose the use of nitrogen. Scharpf et al is relied upon to disclose it's well known to use nitrogen in the inlet of the combustion chamber for the purpose of improving the cooling function of the input fluid. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to inject nitrogen in Hughes et al as taught by Scharpf et al for the purpose of improving the cooling function of the input fluid.

Claims 225-227 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and U.S. 5899072 (Gode). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of corrosion to form hydrogen. Gode is relied upon to disclose it's well known to use corrosion to form hydrogen (column 1, lines 36-49). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form hydrogen by corrosion in Tindell as taught by Gode for the purpose of generating more hydrogen if needed.

Claims 231, 235 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and U.S. 5516359 (Kang et al). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of air separation unit with membrane. Kang et al is relied upon to disclose it's well known to use air separation unit 107 with membrane 108 for separating air. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an air separation unit with membrane in Tindell as taught by Kang et al for the purpose of separating air to form more important components if needed.

Claim 237 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and U.S. 4440545 (Weidig). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of corrosion inhibitor. Weidig is relied upon to disclose it's well known to use corrosion inhibitor in a combustion chamber. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use corrosion inhibitor in Tindell as taught by Weidig for the purpose of inhibiting corrosion in the combustion chamber.

Claim 241 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and U.S. 3975913 (Erickson). Tindell as modified

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by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of fuel cell. Erickson is relied upon to disclose it's well known to use fuel cell 1 to work in combination with an electrolysis chamber. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use fuel cell in Tindell as taught by Erickson for the purpose of generating the appropriate amount of hydrogen and oxygen.

Claim 242 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and US 2406605 (Hurd et al). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of gel storage. US 2406605 (Hurd et al) discloses the concept of converting hydrogen into hydrogen gel by treating the hydrogen in the dry condenser, note example 4 in column 3. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use gel storage in Tindell as taught by Hurd et al for the purpose of ease of storing hydrogen.

Claims 259-260, 350, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and US 6212876 (Gregory et al). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the jet propulsion rocket. US 6212876 (Gregory et al) teaches a rocket propulsion engine using combustion engine. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to

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use jet propulsion rocket in Tindell as taught by Gregory et al for the purpose of driving rocket if needed (note it's well known to use combustion engine such as gas engine to produce thrust in aircraft/rocket design).

Claims 244-247 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Scharpf and U.S. 6698183 (Thordarson). Tindell as modified by Scharpf discloses all the claimed subject matter as set forth above, but does not disclose the use of flywheel and transmission. Thordarson is relied upon to disclose it's well known to use flywheel 176 and transmission 178 for transmitting power from a combustion chamber/engine 22. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use flywheel and transmission in Tindell as taught by Thordarson for the purpose of transmitting power output of the combustion engine.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
11/4/2007